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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,907	12/04/2000	Michael Ralph Foster	DP-304486	7481

7590 01/07/2005
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EXAMINER

TRAN, HIEN THI

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,907

Applicant(s)

FOSTER ET AL.

Examiner

Hien Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-7,9-13,15-18 and 22-31 is/are pending in the application.
- 4a) Of the above claim(s) 22-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,11-13,15,17 and 18 is/are rejected.
- 7) ☒ Claim(s) 9,10 and 16 is/are objected to.
- 8) ☒ Claim(s) 1-3,5-7,9-13,15-18 and 22-31 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Objections

1. Claim 15 and 18 are objected to because of the following informalities:

In claim 15, line 1 "14" should be changed to --13-- (since claim 14 has been cancelled).

In claim 18, line 2 "more" should be changed to --both-- (since the shell only has two ends).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is

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aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

5. Claims 1-3, 5-7, 11-13, 15, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vroman (3,978,567) in view of Umin et al (5,980,837).

Vroman discloses a catalytic converter comprising:

a catalyst substrate 13 comprising a catalyst, and having a first lip (a part before the first groove 17, near the end face 13c) concentrically disposed about a first end of said catalyst substrate, a second lip (a part after the second groove 17, near the end face 13b) concentrically disposed about a second end of said catalyst substrate, at least one ridge therebetween (a part between the first and second grooves), and an outer surface such that the ridge is spaced apart from the first lip by said outer surface and spaced apart from the second lip by said outer surface, said outer surface having an outer surface diameter less than the outer diameter of the ridge;

a shell 11 having an opening, and concentrically disposed around said catalyst substrate;

and

a first resilient support material 18 disposed about the outer surface between the ridge and the first lip, and a second resilient support material 18 disposed about the outer surface between

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the ridge and the second lip and spaced apart from the first support material by a gap 16 between the ridge and the shell 11.

The apparatus of Vroman is substantially the same as that of the instant claims, but is silent as to whether the resilient support may be a mat support material.

However, Umin et al discloses the conventionality of using either wire mesh or mat as a resilient support material.

Since both wire mesh and mat were art-recognized equivalents at the time the invention was made in compressively and securely holding the substrate, one of ordinary skill in the art would have found it obvious to select either type as a resilient support material in the apparatus of Vroman for the known and expected results of obtaining the same results in the absence of unexpected results as evidenced by Umin et al.

Vroman also discloses a first and second shoulders disposed about the shell and the lips.

Vroman further discloses that the shell and the support material comprise at least one depressed annular area (Figs. 1 and 3).

Vroman discloses provision of end cones at the end of the shell (Fig. 1).

With respect to the segmented shape of the lip and the depressed area, note that the shape of the lips or depressed areas are not considered to confer patentability to the claim. It would have been an obvious matter of design choice to select an appropriate shape for the lips or depressed areas, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art, absence showing any unexpected results. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

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6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vroman (3,978,567) applied to claims 1-3, 5-7, 11-13, 15, 18 above, and further in view of Gaysert (4,350,664).

Gaysert discloses provision of a mat protection ring.

It would have been obvious to one having ordinary skill in the art to provide a mat protection ring as taught by Gaysert in the modified apparatus of Vroman to protect the end of the mat thereof.

Allowable Subject Matter

7. Claims 9-10, 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed 10/6/04 have been fully considered but they are not persuasive.

Applicants argue that the substrate 13 of Vroman contain grooves 17, not a ridge as set forth in the instant claims. Such contention is not persuasive as Vroman discloses a first lip (a part before the first groove 17, near the end face 13c) concentrically disposed about a first end of said catalyst substrate, a second lip (a part after the second groove 17, near the end face 13b) concentrically disposed about a second end of said catalyst substrate, at least one ridge therebetween (a part between the first and second grooves), and an outer surface such that the ridge is spaced apart from the first lip by said outer surface and spaced apart from the second lip by said outer surface, a first resilient support material 18 disposed about the outer surface

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between the ridge and the first lip, and a second resilient support material 18 disposed about the outer surface between the ridge and the second lip and spaced apart from the first support material by a gap 16 between the ridge and the shell 11.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hien Tran

HT
December 29, 2004

Hien Tran
Primary Examiner
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